МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
КАФЕДРА ІНОЗЕМНИХ МОВ
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР

МАТЕРІАЛИ

XIV ВСЕУКРАЇНСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ СТУДЕНТІВ, АСПІРАНТІВ ТА ВИКЛАДАЧІВ ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО ЦЕНТРУ КАФЕДРИ ІНОЗЕМНИХ МОВ

«TO MAKE THE WORLD SMARTER AND SAFER»

26 березня 2020 року

Сумський державний університет
(вул. Римського-Корсакова, 2, м. Суми, Сумська обл., 40007)

Суми
2020

SECTION 3 ADVANCEMENTS IN MEDICINE

CLONING CHRONICLES: FROM DOLLY SHEEP TO "COPIES OF HUMAN SOULS"

T.V. Burnos – Sumy State University, Mc.m-708
V.S. Kurochkina – EL Adviser

In 1996, Scottish researchers successfully cloned Dolly's sheep. The birth of this seemingly ordinary white sheep was of enormous importance to science and divided the world into "before" and "after".

In 1928, German embryologist Hans Spemann, together with his student Hilda Magnold, transplanted somatic cell nuclei for the first time using amphibian embryos. Several decades later, in 1962, Oxford University professor John Gerdon reported that he had successfully cloned a South African frog. In 1996, scientists at the Roslin Institute - Jan Wilmut and Keith Campbell - reported to Nature about the birth of Megan and Morag sheep, created using embryonic cells. Dolly became the first animal to emerge from another adult's body using somatic cell nuclear transplant technology.

The sheep was created from an udder cell, so it was named after American singer Dolly Parton, who enjoyed drawing attention to her lush bust. During the cloning that led to the birth of a famous sheep, of the 277 embryos survived only 29. Unlike its predecessors, created using the cells of their biological mother and father, Dolly was an identical copy of the original sheep. She had three mothers.

At first sight, Dolly seemed quite healthy. But a year after she was born, it turned out that sheep DNA had atypical changes to her actual age. A site known as a telomere has the property of becoming shorter as a living organism ages. And in Dolly, it was much shorter than it should have been. Scientists have hypothesized that since a sheep was cloned from an adult six-year-old individual, the age-related changes inherent in it have

also affected the latter's DNA. That is, Dolly was older than her actual age. Dolly had four sisters - they were cloned from the cells of the same donor sheep. They were born during 2005-2007 and have lived a completely normal life without any signs of Dolly's illness and premature aging.

In 2005, the first dog clone, the hunting dog of the breed Afghan Hound Snuppy, was born in South Korea. One puppy was born dead and another died of pneumonia shortly after birth. Since Dolly sheep's birth, scientists have successfully cloned 23 species of animals. Commercial cloning has gained popularity, especially among the stars. Take, for example, the famous actress and singer Barbara Streisand. She cloned her pet - a dog of the breed Coton de Tulear Samantha, who died at the age of 14.

The thing is, primates are biologically close to humans. So, in theory, new technology can also be used to clone humans.

In 2002, the Canadian organization Clonaid, a religious group that believed that humans were created by aliens, announced the birth of the first cloned person, a girl named Eve. However, she was unable to provide any evidence of this (or the emergence of 12 other clones reported later by the organization). In 2004, a group led by a scientist from Seoul National University who created the first cloned dog published an article in Science magazine that allegedly succeeded in cloning a human embryo in a test tube.

It is undeniable that the problem with human cloning is not only that it, like cloning primates in general, it is technologically more complex than cloning other mammals. From these facts, one may conclude that, to find out what the clones are, it is not necessary to create them using the latest technologies, you just have to look at single twins. That is why clones never repeat their predecessors exactly and can have a completely different character and personality.

The other side of the coin is, however, that technology could help people create the tissues and organs they need for the sick and even slow down aging, and infertile parents would have

a chance to raise their own children. Through cloning, humanity could also bring back to life species of animals that have died out for some reason or even dinosaurs.

References

1. The Witherspoon Council on Ethics and the Integrity of Science, "Executive Summary of *The Threat of Human Cloning*," *The New Atlantis*, Number 46, Summer 2015, pp. 5-6.
2. Bowring F (2004) Therapeutic and reproductive cloning: A critique. *Social Science and Medicine*; pp. 401–409.
3. Burley J and Harris J (1999) Human cloning and child welfare. *Journal of Medical Ethics*; pp. 108–113.

ASSOCIATION ANALYSIS BETWEEN BGLAP RS1800247-POLYMORPHIC VARIANT AND TYPE 2 DIABETES MELLITUS DEVELOPMENT AMONG NON-OBESE UKRAINIANS

Y. Chumachenko – Sumy State University, group АСПмі-9.1
V. Harbuzova – Scientific Adviser
S. Zolotova – E L Adviser

Introduction. Type 2 diabetes mellitus (T2DM) belongs to the diseases with hereditary predisposition, so both genetic and environmental factors influence its development. Recent studies showed, that the bone tissue regulates systemic glucose metabolism through the secretion of undercarboxylated osteocalcin (uOCN) into the systemic circulation. It is known, that uOCN binds to the GPRC6A-receptor and, therefore, stimulates insulin expression and secretion in β-cells, as well as increases muscles, liver and adipose tissue sensitivity for insulin. Thus, the thymine to cytosine transition in OCN gene (*BGLAP*) promoter region (rs1800247) may change the gene expression level and affect T2DM emergence.

The aim of the study was to investigate the association between *BGLAP* rs1800247 single nucleotide polymorphism (SNP) and T2DM development among non-obese Ukrainians.